PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Haruki MIZUKAMI et al.

Application No.: 10/506,807

Filed: March 4, 2005

Group Art Unit: 1641

Examiner: B. NGUYEN

Docket No.: 136033

For: INSTRUMENTS FOR DETECTING LOW-MOLECULAR WEIGHT SUBSTANCE

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the June 4, 2008 Office Action, the period for reply being extended by the attached Petition for Extension of time, reconsideration of the rejections is respectfully requested in light of the following remarks. Claims 1, 4-8 and 17-31 are pending in this application, claims 22-31 being withdrawn.

Claims 1, 4-8 and 17-21 are rejected under 35 U.S.C. §103(a) over Cole et al. (U.S. Patent No. 5,141,850) in view of Fitzpatrick et al. (U.S. Patent No. 5,451,504) and further in view of Durst et al. (U.S. Patent No. 5,789,154); and claims 1, 4-8 and 17-21 are rejected under 35 U.S.C. §103(a) over Cole in view of Fitzpatrick and further in view of Neuman (U.S. Patent No. 5,057,275). The rejections are respectfully traversed.

None of the above-applied references teaches or renders obvious every claimed feature of independent claim 1. None of the above-applied references teaches or renders obvious "a reaction product contact section where a reaction product is brought into contact with the low-molecular-weight substance detection instrument, the reaction product being a

product produced by reacting a test sample with a label product containing an antibody capable of binding to a target substance in a test sample, the target substance being selected from a group consisting of dioxins and PCBs; [and] an unbound label product capture section which captures label product which is not bound to the target substance and which does not capture label product which is bound to the target substance," as recited in independent claim 1 (emphasis added).

Cole merely relates to an immunoassay for detecting the presence of immunologically reactive analytes in an aqueous sample, including a labeled component, a capturable component and a detection zone (see Abstract of Cole). Further, Fitzpatrick merely relates to an assay method and a membrane strip containing a mobilization zone, a trap zone and a detection zone (see Fig. 1 of Fitzpatrick). However, neither Cole nor Fitzpatrick discloses a test sample (selected from a group consisting of dioxins or PCBs) which is reacted, in advance, with a labeled antibody outside of the site of chromatography, the reaction product being detected at the site of chromatography, to improve detection sensitivity of the dioxins or PCB. Therefore, Cole and Fitzpatrick do not teach "a reaction product contact section where a reaction product is brought into contact with the low-molecular-weight substance detection instrument, the reaction product being a product produced by reacting a test sample with a label product containing an antibody capable of binding to a target substance in a test sample, the target substance being selected from a group consisting of dioxins and PCBs; [and] an unbound label product capture section which captures label product which is not bound to the target substance and which does not capture label product which is bound to the target substance," as recited in independent claim 1 (emphasis added).

Durst does not remedy the above-described deficiencies of Cole and Fitzpatrick. The Office Action asserts that claim 13 of Durst teaches that small analytes such as dioxin and PCB are easily measurable using conventional techniques, and that Durst teaches binding

materials such as polyclonal or monoclonal antibodies (see Office Action, page 4). However, claim 1 of Durst discloses that these binding materials are non-diffusively bound to the binding portion (see claim 1 of Durst). Therefore, the reaction between the binding material and analyte occurs during chromatography. In other words, Durst also does not disclose "a reaction product contact section where a reaction product is brought into contact with the low-molecular-weight substance detection instrument, the reaction product being a product produced by reacting a test sample with a label product containing an antibody capable of binding to a target substance in a test sample, the target substance being selected from a group consisting of dioxins and PCBs; [and] an unbound label product capture section which captures label product which is not bound to the target substance and which does not capture label product which is bound to the target substance," as recited in independent claim 1 (emphasis added).

Neuman also does not remedy the above-described deficiencies of Cole, Fitzpatrick and Durst. The Office Action asserts that Neuman teaches that environmental contaminants such as dioxins and PCB are easily detected using antibodies designed specifically for these contaminants (see Office Action, page 5). However, Neuman merely discloses that antibodies can be utilized in a liquid phase or bound to a solid phase carrier (see col. 2, lines 62-64 of Neuman). Neuman further discloses that the analyte-specific antibody can be bound to many different carriers and used to detect the presence of the analyte (see col. 3, lines 10-12). Therefore, the reaction of the analyte and antibody of Neuman occurs in the device for detecting the presence of an analyte. In other words, Neuman does not teach or render obvious "a reaction product contact section where a reaction product is brought into contact with the low-molecular-weight substance detection instrument, the reaction product being a product produced by reacting a test sample with a label product containing an antibody capable of binding to a target substance in a test sample, the target substance being selected

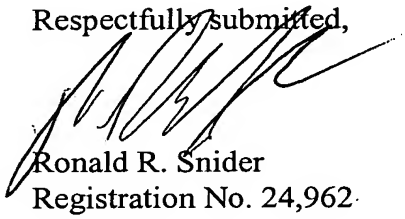
from a group consisting of dioxins and PCBs; [and] an unbound label product capture section which captures label product which is not bound to the target substance and which does not capture label product which is bound to the target substance," as recited in independent claim 1 (emphasis added).

Therefore, for at least these reasons, independent claim 1 is patentable over the above-applied references. Claims 4-8 and 17-21, which depend from independent claim 1, are also patentable for at least their dependency on independent claim 1, as well as for the additional features they recite. Applicants thus respectfully request withdrawal of the rejections.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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